June 10, 1947. H. A. ETLING 2,422,085

WINDOW VENTILATOR

Filed March 30, 1945

Fig. 1.

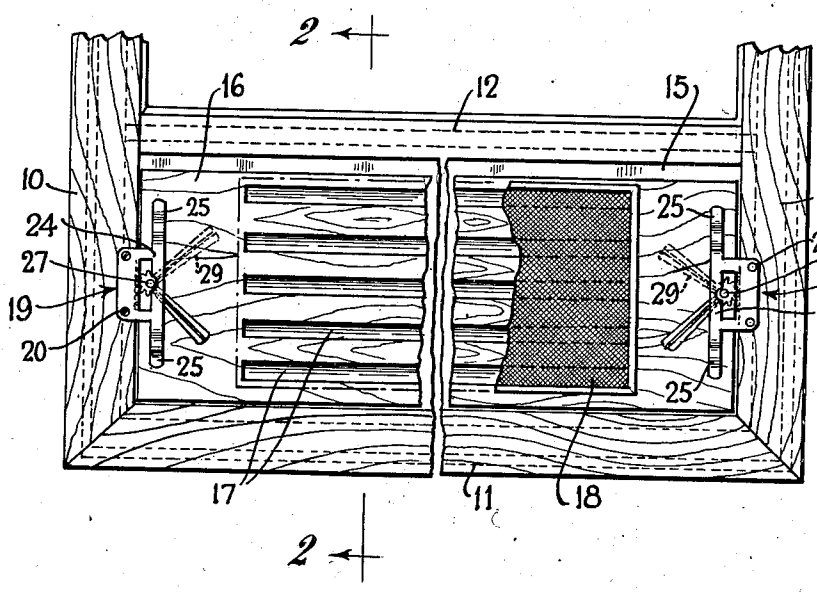


Fig. 2.

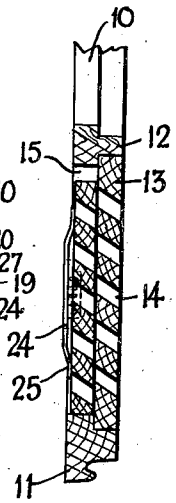
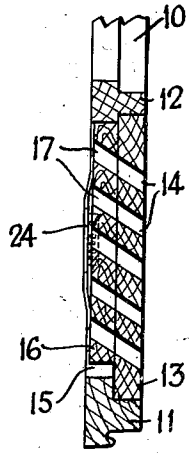


Fig. 3.



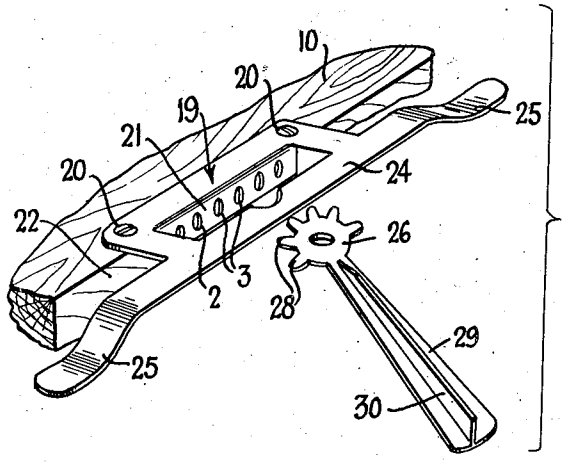


Fig. 4.

INVENTOR
HAROLD A. ETLING

BY Ely & Frye

ATTORNEYS

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WINDOW VENTILATOR

Harold A. Etling, Marshallville, Ohio, assignor to Weather-Seal, Inc., Barberton, Ohio, a corporation of Ohio

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5 Claims. (Cl. 98—97)

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This invention relates to improvements in window and door ventilators, which are more particularly adapted for use with storm windows and doors of the type used in cold weather that are interchangeable with screens for use in warm weather.

An object of the invention is to provide ventilating means for windows and doors of the type referred to which can be quickly and easily adjusted to control the amount of air or ventilation passing therethrough.

Another object is to provide a ventilator of the type referred to comprising a fixed panel having openings therein and a movable panel having similar openings which may readily be moved into and out of registration or into partial registration with the openings in the fixed panel, with novel means being provided to hold the movable panel in any selected position.

A further object is to provide novel means for controlling the movement of the movable panel.

Other objects and advantages will become apparent from the following description taken in conjunction with the accompanying drawing:

In the drawing:

Fig. 1 is a front elevation of the lower portion of a storm window or door sash with my ventilator incorporated therein;

Fig. 2 is a sectional view taken substantially on line 2—2 of Fig. 1 and showing the ventilating arrangement in closed position;

Fig. 3 is a similar view showing the ventilating arrangement in open position; and

Fig. 4 is a perspective view of the means for raising, lowering and holding the movable panel.

Referring to the drawing the numeral 10 designates the side members and the numeral 11 the bottom member of a door or window sash which is usually rectangular in shape but which is broken away herein at the top for the sake of clearness. The sash is adapted to be fitted in the customary supplemental frame (not shown) and to be used in conjunction with and outwardly of a conventional window or door (not shown) of a dwelling, as will be readily understood.

Spaced from the bottom sash member 11 is an intermediate sash member 12 joined to the side members 10 in any suitable manner. Window glass (not shown) is adapted to be arranged in the sash above the member 12 in the usual manner. As more clearly shown in Figs. 2 and 3 the rear portion of the space between members 11 and 12 is filled with a fixed panel 13 having a plurality of spaced, horizontal and preferably inclined openings 14. Panel 13 may be cemented or otherwise suitably held in fixed position.

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The front portion 15 of the space between sash members 11 and 12 is adapted to receive a panel 16 of less width than the space 15 and of slightly less length than said space so as to be movable from the position shown in Fig. 2 to that in Fig. 3 and vice versa. A plurality of horizontal, preferably inclined openings 17 are provided in the movable panel 16, similar in length and arrangement to the openings 14. It will be apparent that the panel 16 may be moved from the closed position shown in Fig. 2, wherein the openings 14 and 16 are not in alignment, to the open position shown in Fig. 3, wherein these openings are in alignment, or vice versa, and by means of mechanism to be described may be held at any position intermediate those shown in Figs. 2 and 3.

Preferably it is desirable to secure a screen or the like, such as shown at 18 in Fig. 1, over the front central portion of panel 16 so as to cover the openings 17 and prevent the entrance of insects or foreign matter through the ventilator, but this screen may be placed at other points that will secure the same result.

Means are provided to move the panel 16 vertically within the space 15 and to hold it in any selected position within said space. As more clearly shown in Figs. 1 and 4, a stamped metal bracket, indicated as a whole by the numeral 19, is secured by means of screws 20 or the like to the front face of each of the sash members 10. Each bracket 19 is formed with an inwardly directed portion 21 which bears against the inside face 22 of members 10 and is provided with a plurality of spaced openings 23. Each bracket 19 is also provided with an extension 24 arranged parallel with the sash members 10, said extensions terminating in depressed portions 25 which frictionally engage the front face of panel 16 and hold it against forward displacement without, however, preventing vertical movement of the panel.

Substantially centrally of each bracket 19, a gear or pinion segment 26 is pivoted to panel 16, as indicated at 27, and the teeth 28 are adapted to be received in the openings 23. An arm 29 is formed on each segment 26 and is provided with an outwardly extended portion 30 which permits the arms to be readily grasped by an operator to raise or lower the movable panel 16. These arms pass under the extensions 24 and do not interfere with the frictional engagement of the ends 25.

In operation the teeth 28 of the segments are

in constant engagement with the openings 23 to provide a rack and pinion arrangement whereby upon pivotal movement of the segments the panel 16 may be raised or lowered as desired. When the arms 29 are pivoted downwardly the panel will move downwardly and vice versa, and by virtue of the frictional engagement of the ends 25 of bracket extensions 24, the panel 16 may be held at either end position or at any intermediate position, so that admission of air through the ventilator may be regulated as desired.

While the preferred form of the invention has been illustrated and described, it will be obvious that the invention is not limited to this form, and modifications may be made therein without departing from the spirit of the invention or from the scope of the subjoined claims.

What is claimed is:

1. In a ventilator construction for windows and doors, a fixed panel having longitudinally, spaced openings therein, a vertically movable panel of less width than said fixed panel and having similar openings therein, means for moving the movable panel vertically to bring the openings therein into and out of complete and partial registry with the openings in said fixed panel, and means for holding the movable panel in selected positions, said first named means comprising a rack and pinion arrangement on each side of said movable panel, and said last named means comprising brackets having a portion frictionally engaging said movable panel on each side thereof, said brackets also having portions that form the racks for said pinions.

2. In a ventilator construction for windows and doors having top, bottom and side sash members, a panel fixed in said members and having a plurality of longitudinal openings therein, a vertically movable panel of less width than said first panel arranged in front of said first panel and having similar openings, means for moving the movable panel vertically to selected positions between the top and bottom sash members so as to bring the openings in said movable panel into and out of complete and partial registry with the openings in said fixed panel, and means for holding the movable panel against the fixed panel in the position selected, said first means comprising a rack arranged on the inside face of at least one of said side sash members, and a pinion segment pivoted on a face of said movable panel adjacent said rack, with the teeth of said segment engaging said rack, said last named means comprising a bracket fixed to the front face of said side sash member adjacent said pinion and having an extension that frictionally engages said face of said movable panel, said bracket also having a portion that forms the rack for said pinion segment.

3. In a ventilator construction for windows and doors having top, bottom and side sash members, a panel fixed in said members and having a plurality of openings therein, a movable panel of less width than said first panel arranged in front of said first panel and having similar openings, a bracket secured to the front face of each side sash member and having an extension frictionally engaging the front face of the movable panel to hold the latter against the fixed panel, said brackets also having a portion that lies against the inside face of each side sash member and being provided with spaced openings, a pinion segment pivoted on said movable panel adjacent each bracket, the teeth of said segments being adapted to engage said last named openings, and an operating arm on each segment, whereby upon pivotal movement of said arms substantially a rack and pinion action will move the movable panel to selected positions between the top and bottom sash members so as to bring the openings in said movable panel into and out of complete and partial registry with the openings in said fixed panel.

4. In a ventilator construction for windows and doors, a fixed panel having longitudinally spaced openings therein, a vertically movable panel of less width than said fixed panel and having similar openings therein, a fixed bracket arranged laterally of said movable panel and having an extension frictionally engaging a face of said movable panel, said bracket also having a portion provided with spaced openings, a pinion segment pivoted on said movable panel adjacent said bracket, the teeth of said segment being adapted to engage said last named openings, and an operating arm on said segment to pivot the latter and cause said teeth to move the movable panel vertically and bring the openings therein into and out of complete and partial registry with the openings in said fixed panel.

5. In a ventilator construction for windows and doors having top, bottom and side sash members, a panel fixed in said members and having a plurality of openings therein, a movable panel of less width than said first panel arranged adjacent the latter and having similar openings, a bracket secured to the front face of at least one of said side sash members and having an extension frictionally engaging a face of the movable panel to hold the latter against the fixed panel, said bracket also having a portion that lies against the inside face of said last mentioned side sash member and being provided with spaced openings, a pinion segment pivoted on said movable panel adjacent said bracket, the teeth of said segment engaging said last named openings, and an operating arm on said segment, whereby upon pivotal movement of said arm substantially a rack and pinion action will move the movable panel to selected positions between the top and bottom sash members.

HAROLD A. ETLING.

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